THE BRITISH LIBRARY BOARD

A landscape from Jules Verne's *Journey to the Centre of the Earth*, published 150 years ago.

SCIENCE FICTION

Verne and beyond

Danièle Chatelain and **George Slusser** explore how French science fiction grapples with Cartesian duality.

Hundreds of years before Jules Verne's heyday, France was in the vanguard of science fiction — driven by the world view of an extraordinary scientist-philosopher. René Descartes' 1644 *Principles of Philosophy* launched the paradigm of a 'clockwork' cosmos of matter and motion mastered by the rational yet metaphysical mind. Although later criticized as the "ghost in the machine", this mind–matter duality inspired a tradition of reasoned speculation about the nature of the world.

Pierre Gassendi was its fountainhead. An empiricist, he published the first data on the transit of Mercury in 1631, posited the idea of infinite space and urged open-ended investigation of the material world. Gassendi decried metaphysics, but was fascinated by Descartes' idea of a mind probing the Universe, which Enlightenment technology was then gradually revealing.

Gassendi's literary inheritor was his pupil, the dramatist Cyrano de Bergerac, who used the device of an imaginary voyage to advance the idea of empirical observation of new worlds. Bergerac's 1657 *Comical History of the States and Empires of the Moon*, which features lunar voyages propelled by rockets and dew, is often seen as the first fictional exploration of gathering and experimenting with data. Simon Tyssot de Patot expanded the field with *Voyages and Adventures of Jacques Massé* (1714). One of the first novels with a 'lost race' theme, it features living fossils such as gigantic birds surviving from prehistory — itself then a heretical concept.

French science fiction began to play more seriously with time and space with Louis-Sébastien Mercier's 1770 *Memoirs of the Year Two Thousand Five Hundred*, which treated the future as a new-found country — in this case, a Paris with functional hospitals and no beggars. Writers such as Restif de la Bretonne in *Les Posthumes* (1802) and Émile Souvestre in the 1846 *The World As It Will Be* continued to explore time travel. England had long been producing similar speculations, from Francis Godwin's *The Man in the Moone* (1638) to Daniel Defoe's *The Consolidator* (1705). But these did not struggle with the challenge recognized by the French tradition — the ambiguous role of the mind in scientific exploration.

With literary giant Honoré de Balzac, the early-nineteenth-century interest in biology and physics began to feed a substantially scientific fiction. In *The Centenarian* (1822), Balzac grapples with the quest to extend human life, much as Mary Shelley had done in *Frankenstein* four years before. But for Balzac, the quest is free of Shelley's religious and moral considerations. *The Centenarian* embraces humanity's material condition: the mind dies with the body. The protagonist keeps his body alive by using elaborate laboratory apparatus (Frankenstein has no equipment) to distil the vital fluid from other humans. And whereas Frankenstein remains an alchemist, Balzac develops a law of 'human thermodynamics' influenced by physicists Nicola Léonard Sadi Carnot and André-Marie Ampère. This dictates that every mental act of wishing or willing results in an equal, opposite and irreversible reduction of bodily resources; the only way to break this infernal circle is to import energy.

English fiction, by contrast, did not fully engage with new scientific theory and method until H. G. Wells's 1895 *The Time Machine*, which places human activity in the uncompromising perspective of evolutionary theory and features a scientist time traveller. Between Shelley and Wells, the British field was dominated by oddities such as essayist Thomas De Quincey's partly fantastical musings on his country's rush towards technological supremacy, *The English Mail-Coach* (1849).

Verne spent the latter half of the nineteenth century extending the bridge between ▶

literature and science. *Journey to the Centre of the Earth* (1864) is about scientific method and its misuses. Scientists Professor Lidenbrock and Axel enter Earth through an Icelandic crater and, after improbable adventures involving mastodons and underground oceans, are ejected through the Italian volcano Stromboli. Lidenbrock ignores data that disturb his schema. Axel is a romantic who fails to examine observable facts. Yet the book probes scientific wonder: when Axel is lost and terrified in subterranean darkness, the reader experiences awe contemplating the complete absence of light.

The French-language genre advanced significantly with the uncompromising scientific approach of J.-H. Rosny Aîné — the pseudonym of the Belgian Joseph Henri Honoré Boex. In the 1910 *Death of the Earth*, Rosny's vision of global environmental crisis is prescient. An imbalance created partly by humans turns Earth to desert. Targ, the last man, succumbs with Darwinian altruism. Realizing that carbon-based life must perish so that the iron-based Ferromagnetics can inhabit the stricken planet, he invites them to take his blood. Rosny excised the anthropomorphic from science fiction.

The 1950s and 1960s saw an invasion of space-age Anglo-American sci-fi, quickly rejected by French critics. Its main portal was *Fiction*, launched in 1953 as a French edition of the US *Magazine of Fantasy and Science Fiction*. From the outset, its editors used it as the platform for a new French sci-fi school relocating space expansionism to 'inner space' and exploring 'mind travel'. In Gérard Klein's *The Overlords of War* or Kurt Steiner's *The Scratched Record* (both 1970), time travel occurs in a vast mindscape generated by huge computers.

In French neuroscientist Jean-Pierre Changeux's scientific treatise *Neuronal Man* (1983), consciousness is linked to brain biology, breaking Descartes' duality. Yet mapping the mind in the brain is a work in progress. There remains plenty of scope for Gallic sci-fi to explore consciousness: the Cartesian ghost still lurks in the French vision of mind and matter. ■

Danièle Chatelain *is professor of French at the University of Redlands, California.* **George Slusser** *is professor of comparative literature and curator emeritus of the Eaton Collection of Science Fiction and Fantasy at the University of California, Riverside. They co-published the critical editions and translations of Honoré de Balzac's* The Centenarian *and* Three Science Fiction Novellas *by J.-H. Rosny Aîné.*
e-mail: daniele_slusser@redlands.edu

REX

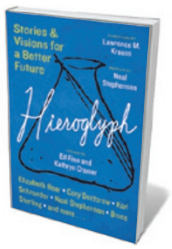
Q&A Neal Stephenson
The sci-fi optimist

Best-selling science-fiction writer Neal Stephenson's works cover everything from cryptography to Sumerian mythology. Ahead of next year's novel Seveneves*, he talks about his influences, the stagnation in material technologies, and* Hieroglyph*, the forthcoming science-fiction anthology that he kick-started to stimulate the next generation of engineers.*

What sparked your interest in science?
There were scientists in several generations of my family. My father was an electrical engineer. I grew up in the university town of Ames, Iowa, which was the best place to grow up in the history of the world, if you were a kid with an interest in science. My friends' parents had PhDs or were studying for them. Respect for science was implicit. I am drawn to 'hard' sciences because I have tools for understanding them, and it is the culture I came from.

How did you become a writer?
As a kid, I read a lot of science fiction and Classics Illustrated comics, and had a series of gifted English teachers — so it wasn't a completely alarming career choice. In college I took a mishmash of physics, geography and computer programming subjects that never added up to a marketable degree. I found myself working as a typist at the University of Iowa libraries, writing my third novel sitting on a milk crate with a fan, beer and a fancy rented typewriter. It was so hot that July that the typewriter's plastic ribbon kept sticking to its internal parts. I figured out that it only got stuck if the ribbon stood still for long enough, so I hammered the thing out. It was accepted and editor Gary Fisketjon spent a year cleaning up my "loose and baggy monster". That became my first published novel, *The Big U* (1984, Harper Perennial), a broad, science-fiction-inflected satire of college life.

How much background research do you do?
I veer back and forth between trying to do the right thing and blind panic. After *The Big U*, I thought I would write about physics. The idea was that the huge explosion in Tunguska, Russia, in 1908, was caused by a primordial singularity — a tiny black hole — popping in and out of Earth. I had a conceit that people following it put the equivalent of a bungee cord around it and got pulled out into space. I spent years writing this thing — and it was terrible. I was so scared that I had blown my chances of being a writer that I wrote another book in 30 days. That turned out to be my second published novel, *Zodiac* (1988, Atlantic Monthly).



Hieroglyph
EDITED BY ED FINN AND KATHRYN CRAMER
HarperCollins: 2014.

How does attending scientific meetings inform your writing?
I go on the spur of the moment. It is good to be in touch, to see what people are working on.